

REMARKS

Claims 1, 4-9, 11-15 and 18-23 are pending.

Claims 1, 4-9, 11-15 and 18-23 are rejected.

Claims 1, 9, 18, 19 and 23 have been amended. Support for these amendments can be found in the specification and drawings, as originally filed.

This response is submitted in response to a final office action. The Applicants submit that the instant response places the application in a condition for allowance, or alternatively, in better form for appeal.

SPECIFICATION OBJECTIONS

The disclosure stands objected to because of the following informalities: In line 17 of Page 7 it appears that the phrase "72 in the large piston" should be changed to -- 78 in the large piston--.

The Applicants respectfully traverse the objection to the specification.

In the interests of expediting prosecution of the instant application, and without admission that any amendment is required, the Applicants have amended the specification in accordance with the Examiner's suggestions.

CLAIM OBJECTIONS

Claims 18-23 stand objected to under 37 CFR §1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 18-23

depend on a cancelled claim. Claims 19-22 are objected to due to their dependency on claim 18.

Claims 1 and 4-9, 11 and 12 are objected to because of the following alleged informalities: in lines 1 and 9, the Examiner recommends using the phrase – the speed of rotation of said brake drum – to avoid the use of the phrase “brake drum’s” first claimed in line 4 from the bottom of claim 1 (also in claim 9). The remaining claims are objected to due to their dependency from one of claims 1 and 9. Appropriate correction is required.

The Applicants respectfully traverse the objection to the claims.

In the interests of expediting prosecution of the instant application, and without admission that any amendment is required, the Applicants have amended the claims in accordance with the Examiner’s suggestions, as well as to provide proper dependency.

35 USC §112, SECOND PARAGRAPH REJECTION

Claim 19 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 19, the recitation of “said applied position” in line 2 allegedly lacks sufficient antecedent basis.

The Applicants respectfully traverse the objection to the claims.

In the interests of expediting prosecution of the instant application, and without admission that any amendment is required, the Applicants have amended the claim to provide sufficient antecedent basis.

35 USC §102(b) REJECTION

Claims 1, 7 and 8 stand rejected under 35 U.S.C. §102(b), as being anticipated by U.S. Patent No. 5,752,588 to Reichert et al.

The Applicants respectfully traverse the 35 U.S.C. §102(b) rejection of claims 1, 7 and 8.

The law is clear that anticipation requires that a single prior art reference disclose each and every limitation of the claim sought to be rejected. 35 U.S.C. §102(b).

The law is also clear that a claim in dependent form shall be construed to incorporate all the limitations of the claim to which it refers. 35 U.S.C. §112, fourth paragraph.

With respect to the recitation of claim 1, as amended, the Applicants submit that Reichert et al. fails in teaching the claimed structure.

As noted in the Applicant's previous response, while Reichert et al. may arguably disclose a two-stage hydraulic circuit, there is no teaching that the "servo provides a rapid activation of [the] linkage during a first stage to rapidly expand [the] brake band, and a controlled compression and expansion of [the] brake band during a second stage."

With respect to the Examiner's assertion that "it is evident that Reichert et al. describe the invention to the same extent as Applicant," the Applicants respectfully disagree.

There is no teaching whatsoever in Reichert et al. regarding rapid activation of a linkage during a first stage to rapidly expand the brake band, and a controlled

compression and expansion of the brake band during a second stage. Reichert et al. is only concerned with hydraulic fluid conservation, not rapid and/or controlled linkage actuation, as presently claimed.

With respect to the Examiner's assertions that "the use of a minimized amount of hydraulic fluid to achieve actuation of a small or minimized amount of hydraulic fluid to achieve actuation suggests that actuation occurs faster since it takes less time to wait for the accumulation of a small or minimized volume of fluid" and "since the smaller apply piston associated with the first stage is the first to cause brake actuation, the first stage may be considered the quicker (or comparatively rapid) stage just as the first runner to reach a finish line of a race is considered to be the quicker runner," the Applicant respectfully requests the Examiner execute and submit an affidavit to both of these effects in accordance with 37 C.F.R. §1.104(d)(2).

Accordingly, the Applicants contend that the 35 U.S.C. §102(b) rejection of claims 1, 7 and 8 has been overcome.

Furthermore, the Applicants submit that Reichert et al. does not render claims 1, 7 and 8 obvious.

The standard for obviousness is that there must be some suggestion, either in the reference or in the relevant art, of how to modify what is disclosed to arrive at the claimed invention. In addition, "[s]omething in the prior art as a whole must suggest the desirability and, thus, the obviousness, of making" the modification to the art suggested by the Examiner. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1051, 5 U.S.P.Q.2d (BNA) 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988). Although the Examiner may suggest the teachings of a primary reference could be modified to

arrive at the claimed subject matter, the modification is not obvious unless the prior art also suggests the desirability of such modification. *In re Laskowski*, 871 F.2d 115, 117, 10 U.S.P.Q.2d (BNA) 1397, 1398 (Fed. Cir.1989). There must be a teaching in the prior art for the proposed combination or modification to be proper. *In re Newell*, 891 F.2d 899, 13 U.S.P.Q.2d (BNA) 1248 (Fed. Cir. 1989). If the prior art fails to provide this necessary teaching, suggestion, or incentive supporting the Examiner's suggested modification, the rejection based upon this suggested modification is error and must be reversed. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d (BNA) 1566 (Fed. Cir. 1990).

As previously noted, while Reichert et al. may arguably disclose a two-stage hydraulic circuit, there is no teaching or suggestion that the servo provides a rapid activation of the linkage during a first stage to rapidly expand the brake band, and a controlled compression and expansion of the brake band during a second stage.

Conversely, Reichert et al. discloses, at column 1, lines 33-39, that:

It is an object of the invention to provide an hydraulic servo with travel compensation, for friction brakes for shifting an automatic transmission for motor vehicles, in order, at the time of shift, **to minimize the volume of hydraulic fluid required to apply a friction brake** to avoid an undesired pressure drop due to the volume of fluid which has to be made available. (Emphasis added).

Thus, Reichert et al. appears to disclose that the supposed first stage actuation of the hydraulic servo is accomplished slowly, due to the conservation of hydraulic fluid delivered to the pressure chamber of the supposed main piston of the servo. More specifically, Reichert et al. is concerned primarily with conserving hydraulic fluid in the event of a system leak, e.g., through the use of a compensation pressure chamber and cooperating piston, than with rapid first stage piston actuation of the hydraulic servo, as

presently claimed. Accordingly, Reichert et al. appear to teach away from the claimed invention, and thus cannot render claims 1, 7 and 8 obvious.

35 USC §102(b) REJECTION

Claims 1, 7 and 8 stand rejected under 35 U.S.C. §102(b), as being anticipated by JP-11264460 (using U.S. Patent No. 6,102,825 to Hisano et al. as an English equivalent).

The Applicants respectfully traverse the 35 U.S.C. §102(b) rejection of claims 1, 7 and 8.

Hisano et al. teaches no such structure as recited in claim 1, as amended.

Specifically, while Hisano et al. may arguably disclose a two-stage hydraulic circuit, there is no teaching that the “servo provides a rapid activation of [the] linkage during a first stage to rapidly expand [the] brake band, and a controlled compression and expansion of [the] brake band during a second stage.”

With respect to the Examiner’s assertion that “since the Hisano et al. reference shows a small apply piston 43 arranged closest to the linkage that promotes the initial brake application movement to the linkage and shows a larger apply piston 44 for more finite adjustments of the brake band pressure to the same extent as Applicant’s, Examiner maintains the rejections,” the Applicant respectfully requests the Examiner execute and submit an affidavit to this effect in accordance with 37 C.F.R. §1.104(d)(2).

Accordingly, the Applicants contend that the 35 U.S.C. §102(b) rejection of 1, 7 and 8 has been overcome.

Furthermore, the Applicants submit that Hisano et al. does not render claims 1, 7 and 8 obvious.

As previously noted, while Hisano et al. may arguably disclose a two-stage hydraulic circuit, there is no teaching or suggestion that the “servo provides a rapid activation of [the] linkage during a first stage to rapidly expand [the] brake band, and a controlled compression and expansion of [the] brake band during a second stage.” For example, Hisano et al. disclose at, column 3, lines 3-23:

According to the invention, the rotation of the rotational element reduces to synchronize with the rotation of the rotational element at the low speed gear stage. That is, the rotation of the rotational element reduces to stop. In this case, the de-energizing operation occurs at the band brake. Therefore, **the rotational element is not stopped from rotating by the band brake, because the engagement force occurred by the application of the aforementioned hydraulic pressure is small.** After that, when the rotational element is stopped from rotating and then the reverse rotation of the rotational element is started, the self-energizing operation occurs. Therefore, the engagement force of the band brake steeply increases to stop the rotational element from rotating.

In this case, the hydraulic pressure applied to the hydraulic servo of the band brake is the waiting pressure, which is lower for the predetermined amount than the hydraulic pressure to maintain the stop of the rotation of the rotational element. Therefore, **the rotational element is not steeply stopped, that is, the rotation of the rotational element changes gradually.** (Emphasis added).

Thus, Hisano et al. appears to disclose that the supposed first stage actuation of the hydraulic servo is accomplished slowly or weakly, due to the application of only a small amount of hydraulic pressure to the supposed main piston of the servo. Accordingly, Hisano et al. appear to teach away from the claimed invention, and thus cannot render claims 1, 7 and 8 obvious.

REJECTION UNDER 35 U.S.C. § 103(a)

Claims 4, 5, 9-11, 13, 18-21, and 23 stand rejected under 35 U.S.C. §103(a), as being unpatentable over Reichert et al. in view of U.S. Patent No. 5,003,842 to Hatta et al.

The Applicant respectfully traverses the 35 U.S.C. §103(a) rejection of claims 4, 5, 9-11, 13, 16-21, and 23. The Examiner should note that claim 10 was canceled, without prejudice, in a previous response.

The Examiner apparently cited Hatta et al. in order to cure the aforementioned deficiencies in the disclosure of Reichert et al. However, Hatta et al. adds nothing to the disclosure of Reichert et al. in terms of disclosing the structure and function of the two-stage hydraulic servo, wherein the servo provides a rapid activation of the linkage during a first stage to rapidly expand the brake band, and a controlled compression and expansion of the brake band during a second stage.

Because claim 1 is allowable over Reichert et al. and/or Hatta et al., either alone or in combination therewith, for at least the reasons stated above, claims 4 and 5, which further define claim 1, is likewise allowable.

Accordingly, the 35 U.S.C. §103(a) rejection of claims 4 and 5 has been overcome.

Neither Reichert et al. and/or Hatta et al., either alone or in combination therewith, teach or suggest such a structure as recited in claim 9, as amended.

Specifically, while Reichert et al. may arguably disclose a two-stage hydraulic circuit, there is no teaching of a “servo providing a rapid activation of the linkage during

a first stage to rapidly expand said brake band, and a controlled compression and expansion of said brake band during a second stage; and ... [the] servo activating said linkage to provide positive compression and expansion to said brake band for applying friction to the brake drum to control the brake drum's speed of rotation; wherein said servo includes a first piston and a second piston, said first piston being smaller than said second piston, said first piston being operable to provide rapid movement of said brake band and said second piston being operable to provide fine adjustments of said brake band."

Hatta et al. does not cure the aforementioned deficiencies in the disclosure of Reichert et al.

Accordingly, the 35 U.S.C. §103(a) rejection of claim 9 has been overcome.

Because claim 9 is allowable over Reichert et al. and/or Hatta et al., either alone or in combination therewith, for at least the reasons stated above, claim 11, which further defines claim 9, is likewise allowable.

Neither Reichert et al. and/or Hatta et al., either alone or in combination therewith, teach or suggest such methodology as recited in claim 13, as amended.

Specifically, while Reichert et al. may arguably disclose a two-stage hydraulic circuit, there is no teaching of a method for "applying a first fast active compression force to said brake band to a predetermined position ... wherein a two-stage servo is used for controlling said brake band; wherein said servo has a first stage for rapidly applying band pressure, and a second stage for providing positive finite control of both apply and release pressures on said brake band during the shift."

Hatta et al. does not cure the aforementioned deficiencies in the disclosure of Reichert et al.

Accordingly, the 35 U.S.C. §103(a) rejection of claim 13 has been overcome.

Because claim 13 is allowable over Reichert et al. and/or Hatta et al., either alone or in combination therewith, for at least the reasons stated above, claims 18-21 and 23, which further define claim 13, are likewise allowable.

35 USC §103(a) REJECTION

Claims 4, 5, and 13-15, and 18-23 are rejected under 35 USC §103(a) as being unpatentable over JP-11264460 to Hisano et al. in view of U.S. Patent 5,003,842 to Hatta et al.

The Applicants respectfully traverse the 35 U.S.C. §103(a) rejection of claims 4, 5, 13-15, and 18-23.

The Examiner apparently cited Hatta et al. in order to cure the aforementioned deficiencies in the disclosure of Hisano et al. However, Hatta et al. adds nothing to the disclosure of Hisano et al. in terms of disclosing the structure and function of the two stage hydraulic servo of the present invention.

Because claim 1 is allowable over Hisano et al. and/or Hatta et al., either alone or in combination therewith, for at least the reasons stated above, claims 4 and 5, which further define claim 1, are likewise allowable.

Accordingly, the 35 U.S.C. §103(a) rejection of claims 4 and 5 has been overcome.

Furthermore, neither Hisano et al. and/or Hatta et al., either alone or in combination therewith, teach or suggest such methodology as claimed in claim 13.

Specifically, while Hisano et al. may arguably disclose a two-stage hydraulic circuit, there is no teaching of a method for “applying a first fast active compression force to said brake band to a predetermined position ... wherein a two-stage servo is used for controlling said brake band; wherein said servo has a first stage for rapidly applying band pressure, and a second stage for providing positive finite control of both apply and release pressures on said brake band during the shift.”

Hatta et al. does not cure the aforementioned deficiencies in the disclosure of Hisano et al.

Accordingly, the 35 U.S.C. §103(a) rejection of claim 13 has been overcome.

Because claim 13 is allowable over Hisano et al. and/or Hatta et al., either alone or in combination therewith, for at least the reasons stated above, claims 14, 15 and 18-23, which further define claim 13, are likewise allowable.

35 USC §103(a) REJECTION

Claim 6 is rejected under 35 USC §103(a) as being unpatentable over Reichert et al. in view of U.S. Patent 4,070,981 to Guinn et al.

The Applicants respectfully traverse the 35 U.S.C. §103(a) rejection of claim 6.

The Examiner apparently cited Guinn et al. in order to cure the aforementioned deficiencies in the disclosure of Reichert et al. However, Guinn et al. adds nothing to the disclosure of Reichert et al. in terms of disclosing the structure and function of the two-stage hydraulic servo, wherein the servo provides a rapid activation of the linkage

during a first stage to rapidly expand the brake band, and a controlled compression and expansion of the brake band during a second stage.

Because claim 1 is allowable over Reichert et al. for at least the reasons stated above, claim 6, which further defines claim 1, is likewise allowable.

Accordingly, the 35 U.S.C. §103(a) rejection of claim 6 has been overcome.

35 USC §103(a) REJECTION

Claim 6 is rejected under 35 USC §103(a) as being unpatentable over JP-11264460 in view of U.S. Patent 4,070,981 to Guinn et al.

The Applicants respectfully traverse the 35 U.S.C. §103(a) rejection of claim 6.

The Examiner apparently cited Guinn et al. in order to cure the aforementioned deficiencies in the disclosure of Hisano et al. However, Guinn et al. adds nothing to the disclosure of Hisano et al. in terms of disclosing the structure and function of the two-stage hydraulic servo, wherein the servo provides a rapid activation of the linkage during a first stage to rapidly expand the brake band, and a controlled compression and expansion of the brake band during a second stage.

Because claim 1 is allowable over Hisano et al. for at least the reasons stated above, claim 6, which further defines claim 1, is likewise allowable.

Accordingly, the 35 U.S.C. §103(a) rejection of claim 6 has been overcome.

35 USC §103(a) REJECTION

Claim 12 is rejected under 35 USC §103(a) as being unpatentable over Reichert et al. in view of U.S. Patent 5,003,842 to Hatta et al. as applied to claim 9 above, and further in view of Guinn et al.

The Applicants respectfully traverse the 35 U.S.C. §103(a) rejection of claim 12.

The Examiner apparently cited Guinn et al. in order to cure the aforementioned deficiencies in the disclosure of Reichert et al. and/or Hatta et al. However, Guinn et al. adds nothing to the disclosure of Reichert et al. and/or Hatta et al. in terms of disclosing the structure and function of the two-stage hydraulic servo, wherein the servo provides a rapid activation of the linkage during a first stage to rapidly expand the brake band, and a controlled compression and expansion of the brake band during a second stage.

Because claim 9 is allowable over Reichert et al. and/or Hatta et al., either alone or in combination therewith, for at least the reasons stated above, claim 12, which further defines claim 9, is likewise allowable.

Accordingly, the 35 U.S.C. §103(a) rejection of claim 12 has been overcome.

CONCLUSION

In view of the foregoing, the Applicant respectfully requests reconsideration and reexamination of the Application. The Applicant respectfully submits that each item raised by Examiner in the Office Action of July 18, 2003 has been successfully traversed, overcome or rendered moot by this response. The Applicant respectfully submits that each of the claims in this Application is in condition for allowance and such allowance is earnestly solicited.


The Examiner is invited to telephone the Applicant's undersigned attorney at (248) 364-4300 if any unresolved matters remain.

Any needed extension of time is hereby requested with the filing of this document.

The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 501612. A duplicate copy of this letter is enclosed herewith for this purpose.

Respectfully submitted,

Dated: Dec 18, 2013

By: 
Philip R. Warn
Registration No. 32,775

P.O. Box 70098
Rochester Hills, MI 48307
Telephone: (248) 364-4300
Fax: (248) 364-4285

PRW/PHS/srk
S:\PHS\BorgWarner\00056\Response to Final Office Action.doc